

NEWS

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TABLE OF CONTENTS

1. MANAGER OF ACADEMIC COMPUTING SERVICES HIRED	1
2. COMPUTING CENTER RJE MEANS FASTER TURNAROUND FOR MOST USERS	2
3. SPRING COMPUTING HOURS	2
4. BA RJE TELEPHONE: THE NUMBER IS OUT	2
5. PROGRAM PRODUCTS AVAILABLE FOR MVT	3
6. MUSIC	4
status of music, spring 1981	4
osje/osjr	5
management of music save library files	6
7. TERMINAL MAINTENANCE CONTRACT	7
8. HP 2000	8
spring backup schedule	8
HP seminars	8
9. COMPUTER HUMOR	8
10. ANOVA MODELS TESTED BY VARIOUS SPSS AND SAS OPTIONS	10
11. INDEX TO PAST ISSUES	11

MANAGER OF ACADEMIC COMPUTING SERVICES HIRED

Thomas W. Madron, Ph.D. has been hired as the new Manager of Academic Computing services, effective February 1, 1981. He comes to N.T. from Western Kentucky University, Bowling Green, where he has been Coordinator for Academic Computing and Research Services since 1971. He has also maintained a position as a professor in the Government department at Western Kentucky since 1967. Prior to that he was a professor at such institutions as Western Kentucky University; Lycoming College, Williamsport, Pa.; and Lambuth College, Jackson Tennessee. His degrees are in Political Science.

Dr. Madron represents a welcome addition to our staff. His experience and expertise will go far in helping the North Texas State Computing Center achieve excellence in academic computing. Feel free to drop by the Computing Center and meet Tom anytime after February 1. He is eager to get to know the computer users, students as well as faculty and staff.

COMPUTING CENTER RJE MEANS FASTER TURNAROUND FOR MOST USERS

The Computing Center has just completed installation of a remote job entry (RJE) station in the dispatch area of the student/faculty programming/keypunch area (ISB). This RJE will handle (normally) only student and faculty output, thereby improving turnaround for most users. It will still be necessary for some users requiring special handling to utilize the high speed printer located in the Computer Room, but for the most part this printer will be dedicated to printing Administrative jobs. If, however, the printer in the Computer Room goes down, the printer located in the Computing Center RJE will be used as a backup. Of course this works both ways, so that the printer in the Computer Room will also act as the backup printer for the CCTR RJE.

Users may inquire about the status of their jobs at the Computing Center by dialing the Programming/Keypunch Area phone number (788-2086) and asking for the dispatcher. Users should be able to furnish their job name(s) so that the dispatcher can make an inquiry about the job(s).

SPRING COMPUTING HOURS

Computing hours for the spring semester are similar to the hours maintained during the fall semester, with the exception of a reduction in the hours of the Business Administration Building Access Facility and a corresponding increase in the hours of the newly acquired Computing Center RJE. The following hours will be maintained throughout the semester or until further notice:

Computing Center RJE: 24 hours a day Monday through Friday, close Saturday midnight. Noon until midnight on Sunday.

Computing Center Computer Room: Same hours as Computing Center RJE. (used primarily for jobs requiring special handling).

Business Administration Building
Computing Access Facility : 7:30 AM to Midnight Monday through Saturday. Noon to Midnight Sunday.

BA RJE TELEPHONE: THE NUMBER IS OUT

The policy concerning the use of the telephone in the Business Administration Building Computing Access Facility (BA RJE) has been changed. From now on, users may call 788-2586 (an alternative to calling the Computing Center number mentioned previously) to check on their job's status. This, however, is the only reason that they may call. Hopefully, a public telephone will be installed in the not too distant future, making life even more convenient for the users of the BA RJE. Until then, however, all out-going calls should be made from any of the phones in the HP room. In-coming calls asking to speak with

students or consultants will not be accepted. The judicious use of this telephone will help alleviate a lot of unnecessary legwork for both users and dispatch personnel.

PROGRAM PRODUCTS AVAILABLE FOR MVT

The program product compilers and libraries for ANS COBOL Version 4, FORTRAN G1 and PL/I OPTIMIZING compilers have been installed in the MVT batch system and are available for use. Minimal testing has been done. The standard OS compilers provided with MVT (COBOL V2, Fortran G, and PL/I F) remain available and any job (or procedure) which utilizes those compilers will be unaffected by the addition of the program products.

New catalogued procedures have been added to accomodate these program products. The catalogued procedures are set up in the same manner as other NTSU language translator procedures - i.e., a prefix-suffix yields the desired procedure. the procedure prefixes are COBV4, FORG1, and PL10 (ih oh) and the suffixes are C, CG, CLG, LG, and G.

The catalogued procedures correspond as nearly as possible to the procedures for COBOL V2, FORTRAN G, and PL/I F while pointing to proper libraries and providing necessary changes required and maintaining compatibility with IBM supplied procedures. The IBM supplied procedures for the program products (listed in the programmer's guides) have not been installed.

The step names for the program products are COB, FORT, and PL1 (different from PL/I F) for the compile steps; LKED for link edit step; and GO for go step.

Additional documentation is required for using the program products. The documentation, listed below, is available in the manual racks located in the student/faculty programming and keypunch area in the Computing Center (Information Science Building) and in the student/faculty programming area of the Business Administration Computing Access Facility. Copies of the documentation can be ordered through IBM.

DOCUMENTATION

COBOL V4: IBM OS Full American National Standard COBOL Compiler and Library, Version 4, Programmer's Guide, SC28-6456.

NOTE: The language reference manual is the same as COBOL V2.

FORTRAN G1:

IBM OS Code and Go FORTRAN and FORTRAN IV (G1) Programmer's Guide, SC28-6853.

IBM OS FORTRAN IV (H extended) Compiler and Library (Mod II) Messages, SC28-6865.

IBM System/360 OS FORTRAN IV Mathematical and Service Subprograms Supplement for Mod I and Mod II libraries, SC28-6864.

NOTE: The language reference manual is the same as FORTRAN G.

PL/I OPTIMIZING:

OS PL/I Checkout and Optimizing Compilers: Language Reference Manual, GC33-0009.

OS PL/I Optimizing Compiler: Programmer's Guide, SC33-0006.

OS PL/I Optimizing Compiler: Messages, SC33-0027.

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* M U S I C *

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STATUS OF MUSIC, SPRING 1981

As reported in the October 1980 BENCHMARKS, MUSIC (McGill University System for Interactive Computing) is up and running. The Computing Center was able to obtain a source tape containing the MUSIC manual, which has been edited so that it is applicable to our installation. This manual is available in the textbook section of the University store for \$6.99.

Access to MUSIC is gained in the same manner that one gains access to the AS/5000. Account authorization must be attained from the budget authority of the account to which charges are to be made, either by going to a department head or faculty member, or by enrolling in a class which utilizes MUSIC (currently limited to advanced classes so that system and terminal overload can be reduced). After authorization is attained, a MUSIC Timeshare Service ID Request Form, available from the Computing Center, must be completed. As of yet, there is no additional charge for the use of MUSIC.

Currently only 300 baud asynchronous dial-up terminals and 1200 baud hardwired terminals are supported.

The dial-up terminal types that are supported are:

TTY	LA36	ACTV	MIME	ADM3A	TI745	TI735
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MUSIC can be accessed by any of the above terminal types by calling 566-1222. In addition to the dial-up terminals that are available throughout campus, cables have been pulled to the General Academic Building (GAB) and the Business Administration Building (BA). When installation is completed, in February, there will be sixteen hardwired CRT's available in BA and twelve hardwired CRT's available in the Media

Library (GAB). An additional four hardwired high speed DECwriters will also be available in the GAB, Room 333. The following processors are currently supported through MUSIC:

FORTRAN G1	ANS COBOL V4	PL/I OPTIMIZING COMPILER
WATBOL	SUBSET BASIC	VS BASIC
MUSIC APL (requires a special terminal)		

It is also possible to access the Calcomp 663 plotter, located in Physics B13, through MUSIC, although some seldom used routines are not available as of yet (contact Dr. Jim Mackey in Physics for further information concerning the plotter). Plans are underway to acquire IIS (Interactive Instructional System) so that several CAI (computer assisted instruction) courses designed to familiarize the user with the basic concepts of the MUSIC system can be made available. This should help ease the pain of transition from batch to interactive computing for most users.

Another help to MUSIC users is the MUSIC Commands Reference Summary (a pocket guide) available at the Computing Center Dispatch desk located in the student/faculty programming/keypunch area (ISB) and the Dispatch desk located in the Business Administration Computing Access Facility. This guide and a sheet explaining the MUSIC log on procedure is given to users at the time they are issued a MUSIC ID. If, however, you did not get a pocket guide or misplaced it, feel free to drop by and pick another one up. As always, if you have any questions, problems and/or suggestions please contact Abdi or Mohamad Salashoor, the MUSIC Coordinators, Computing Center (817) 788-2324.

OSJE/OSJR

There are currently approximately 250 holders of MUSIC ID's. So far, the most common use of the system has been for submission of jobs through OSJE to batch and retrieving the output through OSJR. MUSIC OS Job Entry (OSJE) and MUSIC OS Job Retrieval (OSJR) are two facilities that allow MUSIC users to submit jobs to the OS system and directly receive the results back at their terminals, thereby allowing users to utilize the OS facilities that are not directly available on MUSIC as well as to examine their output for errors before printing (if they are running MUSIC from a CRT). For a more detailed explanation of OSJE/OSJR consult the MUSIC Manual, available in the textbook section of the University Store or in the manual rack located in the student/faculty programming/keypunch area of the Computing Center (ISB).

A typical use of OSJE/OSJR is to access one of the statistical packages, using data that has been previously stored on disk. Note that the job setup is the same except for the first two lines. Valid "types" are: faculty, staff, student, and secure (similar to the pink card "types" used to end batch jobs). The "return" parameter is to enable the user to examine his/her output through OSJR. The first four characters of the "job name" must be synonymous with the first four characters of the user's MUSIC ID Code. The following example would probably be stored in a user's SAVE Library so that it could be executed and modified as often as needed.

EXAMPLE

```

/INCLUDE OSJE
TYPE='STUDENT',RETURN
//ID34RUN JOB (9999-9999,1,3),'BETTY BOOP'
// EXEC SPSS
//FT08F001 DD DSN=USER1.D9999.P9999.BOOP.DATA,UNIT=SYSDA,
// VOL=SER=ACAD02,DISP=(OLD,KEEP)
VARIABLE LIST V1 TO V25
INPUT FORMAT FIXED (25F3.0)
INPUT MEDIUM DISK
FREQUENCIES GENERAL=ALL
STATISTICS ALL

```

As stated when /NEWS is executed (a MUSIC command used to list current MUSIC items of interest), users submitting a job to OS/MVT requiring a tape mount must call Computing Center dispatch and provide all necessary information (jobname, volume serial number, whether it is for input or output, etc.). The user must also make sure that the tape is available in the Computing Center. Also, all jobs submitted to OS/MVT via OSJE should be routed to a printer or purged as soon as the user is through with them. This will prevent the disk space from being tied up by too many jobs in the system. If necessary, the MVT operator may print or purge jobs that have been left in OSJR for an excessive period of time. Jobs submitted when OS/MVT is down (such as part of the weekend, according to the current schedule) will be executed when the batch system is next brought up. MAKE SURE AND EXECUTE /NEWS WHENEVER THE LOGON MESSAGE INDICATES THAT THERE IS A HOT ITEM OF INTEREST!!!!

MANAGEMENT OF MUSIC SAVE LIBRARY FILES

MUSIC maintains an index of all files created by the user and saved in a SAVE library file. SAVE Library files may contain source programs, object programs, data, deferred system commands, or any combination of these. Whenever a user refers to a SAVE Library file, the system will first check the user's index to see if the file exists. As always, consult the MUSIC manual for further information about these topics.

The best time to organize your SAVE Library index is before you have so many files that you don't know which does what. The first thing to do in establishing some organization to your files is to establish some kind of naming convention which will rarely be deviated from. MUSIC allows file names to be up to 17 characters in length, and each character of the name can be any letter (A-Z) or any number (0-9) or any of the special characters: number sign (#), dollar sign (\$), commercial at sign (@), or the period (.). The allowance of periods in names makes establishing a naming convention much easier. For example, if the file is a COBOL program, the name becomes XXX.COB, where "XXX" can be any descriptor you like; i.e. PROG1.COB. The same would be true for FORTRAN files, XXX.FOR; SPSS files, XXX.SPSS; data files, XXX.DATA; etc. If further descriptions become necessary a third part can be added to the name; PROG1.FOR.FALL80. This accomplished, to find all your COBOL programs, all you would have to do is enter: /LIB N(*.COB)

Another possibility would be to enter: /LIB P N(*.COB)
This would cause the list to print across the screen or page and saves space.

If you already have SAVE files, you might wish to rename them so that they will fit your new naming convention. This can be accomplished by using the RENAME command. Simply enter: /REN oldname,newname and the same file has a new name.

After all this, if you would like further documentation of your files you can TAG them. This is accomplished by entering:

/EDIT filename

When the Editor responds EDIT, enter the command TAG and a brief description of your file (up to 64 characters). Now, when you are editing a file if you enter TAG, the current description of the file will be printed. Furthermore, you can get a listing of all your files with TAG's by entering: /LIB T

You can save the output of the /LIB command to a SAVE file named @LIB by typing: /LIB T S or /LIB S T

To save the output of the /LIB command for all TAGged files with a particular name element you could enter: /LIB T N(*.COB)

It is also possible to specify a name other than @LIB for this file. This is done by entering something like: /LIB T N(*.COB) S(LIB.COB) so that your SAVE library containing TAG's of all your COBOL files would be named LIB.COB.

The TAG command implies a FULL parameter, so that all the information about a file, such as: FILE NAME; logical record length (RSIZ); record format (RFM); size of the file in K bytes (SIZE); percentage of the file space used (USED); number of extents of disk space that are used (EXT); date the file was last referenced (REF); date the file was last written on (WRITE); whether the file is in a common library (CL); type of access control allowed for the owner (OWN); and type of access control allowed for others (OTHER). If you wish to know this information about non-TAGged files, simply insert an F along with the other parameters you are planning to use at the time you execute /LIB. Files that are no longer needed can be purged with the PURGE command.

TERMINAL MAINTENANCE CONTRACT

The Computing Center recently executed an NTSU master maintenance contract with M.M. Terminal Service, and has issued purchase orders to cover all general access terminals. Service has been very good and the rates are reasonable. Any department may issue a purchase order for departmental terminal maintenance and reference the master contract without going through another bid process. Contact Sandy Franklin in the Computing Center for further details and/or help with purchase orders.

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* H P - 2000 *

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SPRING BACKUP SCHEDULE

Backup of the HP will continue to be done according to the schedule established in the fall. A daily backup will be done between 8 a.m. and 8:30 a.m., Monday through Friday, and a weekly backup will be performed every Friday between 4 and 5 p.m.. Scheduled shutdowns may occur on weekends due to the continued software development being carried on by the Music Department. At least 48 hour advance notice of scheduled downtime for preventive maintenance and weekend software development will be provided via System Log-on Messages. MAKE SURE AND READ THE LOG-ON MESSAGES - THEY MAY BE IMPORTANT!!!

HP SEMINARS

James Cook, the HP timeshare coordinator, would like some user feedback with regard to the desirability of future seminars geared to use of the HP.

Please call (817) 788-2324 or write to : James Cook
 NTSU Computing Center
 NT Box 13495
 Denton, tx 76203

COMPUTER HUMOR

JOURNEY TO FORTRAN: A YANKEE WAY OF KNOWLEDGE*

Marcos Montezuma, Ph.D.

I am an old man of 70 winters, a Yaqui Indian who has lived all his life in the Mexican desert of Sonora. In 1976, while doing research on the drugs used by the white men of the North to induce states of nonordinary reality, I heard of a sorcerer said to be adept in the use of the powerful, mind-altering drug Valium (diazepam), and I resolved to seek him out.

I packed my belongings on the back of my burro and travelled west and north for many days. After I had journeyed hundreds of miles, I came to a large city on the ocean shore, a city far larger than any I had seen before. I travelled westward through that sprawling city until I came to a great university, and I rode my burro up to a brick, L-shaped building near its center. Inside, I espied a young man sitting

at what seemed to be some kind of typewriter. His skin was pallid, as if he seldom ventured into the light of the sun. My long journey was over--I was face to face with the sorcerer wan Don.

"Wan Don," I entreated, "I have travelled many miles to learn the nature of reality. But I almost despair of doing so. For I know that each of us has his own separate reality. I am an old man, and I fear that there are not years left in my life for me to learn all these different realities."

"Folklore," replied wan Don. "There is only one reality. I will take you, Marcos, as my apprentice, and teach you how to know that reality."

Trembling, I asked, "wan Don, in order to know reality, must one chew the peyote button?"

"No, Marcitos," he said, "one must push the computer button."

He led me to a room in the bowels of the building, a room that was filled with strange machines I had never seen before. He took some rectangular cardboard objects with tiny holes in them and placed them in the machine. Immediately a whirring, clicking, and clattering began, such as I had never heard before.

In terror I cried out, "What is happening, wan Don? Are you stopping the world?"

"No," he replied, "I'm starting the run."

Coming soon: the next volume of the series, where Marcos struggles to "see" reality as wan Don does and still retain his sense of Yuma.

*Reprinted from the American Sociologist 1980, Vol. 15 (November):213 by permission of David S. Webster, Higher Education Specialization, Graduate School of Education, University of California, Los Angeles CA 90024.

ANOVA MODELS TESTED BY VARIOUS SPSS AND SAS OPTIONS

Three approaches to analysis of variance are traditionally used when cell frequencies are unequal. These approaches are: The Classic Experimental Approach, the Regression Approach, and the Heirarchical Approach (some texts may vary in their labeling of each of these approaches). The nature of the problem to be analyzed dictates the choice of the model, therefore the user should consult some type of statistical reference if (s)he is unsure of the appropriate model for his/her data. The following table, furnished by Dr. Bill Brookshire in Education, illustrates the model associated with each approach and the means to access each approach using either the SPSS ANOVA procedure or the SAS GLM procedure.

	Classic Experimental Model	Regression Approach	Heirarchical Approach
MODEL	SS =SS -SS a a,b b	SS =SS -SS a.b,ab a,b,ab b,ab	SS a
	SS =SS -SS b a,b a	SS =SS -SS b.a,ab a,b,ab a,ab	SS =SS -SS b.a a,b a
	SS =SS -SS ab a,b,ab a,b	SS =SS -SS ab.a,b a,b,ab a,b	SS =SS -SS ab a,b,ab a,b
SPSS	Default	Option 9	Option 10
SAS	Type II.SS	Type IV.SS	Type I.SS

INDEX TO PAST ISSUES

In order to utilize BENCHMARKS to its fullest capacity and avoid redundancies, an index of previous issues containing information considered still pertinent to the NT Computing Center is included in each issue.

<u>SUBJECT</u>	<u>VOL/NO</u>	<u>MONTH/YEAR</u>	<u>PG</u>
1. ACCESS TO COMPUTING FACILITIES			
So You Want to Compute . . .	1/3	October/1980	2
2. HARDWARE			
The Computing Center Goes			
Through Some Changes	1/3	October/1980	1
NTSU Computing Center General			
Usage Equipment List	1/3	October/1980	5
The New 3330/3350 Compatible Disk			
Drives - How "The Change" Can			
Effect You	1/3	October/1980	6
News From College of Business			
Computing Center	1/3	October/1980	12
Computer Acquisition			
Status Report	1/2	June/1980	1
3. INPUT			
Memory No Longer A Factor In Job			
Class Selection	1/3	October/1980	10
Job Class Selection	1/1	January/1980	5
4. OUTPUT			
Remote Job Entry (RJE) Operations:			
Secure Jobs	1/3	October/1980	11
5. SERVICES AVAILABLE			
Services Available to Users of			
The NTSU Computing Facilities	1/3	October/1980	2
Data Entry Services	1/3	October/1980	10
6. SOFTWARE			
Software - What We Have and			
What We Support	1/3	October/1980	3
Interactive Computing On the AS/5000			
Through MUSIC	1/3	October/1980	9
Sas Supplemental Library	1/3	October/1980	11
VM/370	1/2	June/1980	7
MUSIC	1/2	June/1980	7
NTSU Gets A New Statistical Software			
Package: Statistical Analysis			
System (SAS)	1/2	June/1980	10
Stat Users Beware	1/2	June/1980	10
SPSS	1/2	June/1980	11
Behavioral and Social Science Data			
Analysis Using Osiris	1/2	June/1980	13
7. USAGE STATISTICS			
HP/2000 Usage Statistics-September 3 1979			
to September 1, 1980	1/3	October/1980	7
AS/5000 Usage Statistics-September 1, 1979			
to August 31, 1980	1/3	October/1980	8

* BENCHMARKS is a semesterly publication of the NTSU Computing *
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BENCHMARKS is the Computing Center newsletter aimed at the NTSU academic community. A benchmark is a point of reference from which measurements of any sort are made, and that name was chosen to symbolize the intent of this publication - to provide a point of reference for the users of the North Texas State University computing facilities. BENCHMARKS was created to provide a channel of communications between the NTSU Computing Center and its users - a channel, hopefully, that will flow both ways, enabling both the users and the Computing Center staff to gain new insights into the ever changing world of academic computing.